

## TITLE

## SPOOL VALVE FOR FLUID CONTROL

## ABSTRACT

5 A spool valve is provided with a stem portion that defines a  
fluid passageway formed by either (a) a single central support  
a having a non-cylindrical curved surface shaped hydrodynamically/  
a (b) only a pair of sidewalls with, preferably, interior surfaces that  
are also shaped aerodynamically. These stem passageways, which  
10 are designed to facilitate the flow of high-speed/high-pressure  
fluids controlled by the valve, are maintained in a predetermined  
orientation relative to the ports of the valve cylinders by a  
mechanism preferably including (a) a cam-following roller supported  
in a tang fixed to each spool and (b) a two-element cam that  
15 captures the roller within two of the parallel sides of a cam-track  
groove formed on the respective interior surfaces of each cam  
element.